



ANCHORAGE TO CONCRETE REQUIREMENTS

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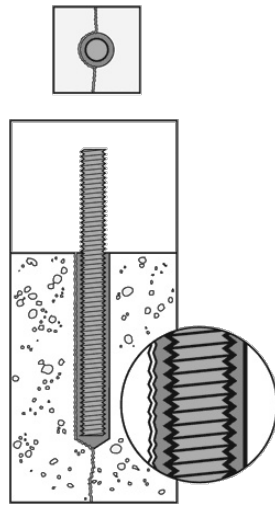


WHAT HAS CHANGED WITH CONCRETE ANCHORAGE UNDER THE 2007 CALIFORNIA BUILDING CODE?

Design and manufacturing requirements for mechanical anchors and epoxy adhesives used with concrete have changed significantly under the new building codes. Products used for attaching building elements (architectural, mechanical and structural) to concrete are now required to continue functioning even after the concrete to which they are attached has cracked.

WHY HAVE THE REQUIREMENTS CHANGED?

Increased reliability of connections under earthquake loads. Living in California means living with earthquakes. However all that moving and shaking has an impact on the structures in which we live and work. Concrete naturally forms small cracks, some too small to see. This occurs as buildings move during earthquakes, wind storms and as settling occurs over time. These cracks can weaken the strength of bolts and epoxy anchors just when you need them most. The new requirements are intended to provide better connections to concrete under earthquake loads in order to minimize damage to persons and properties.



CAN I CONTINUE TO USE THE SAME PRODUCTS I HAVE IN THE PAST?

Yes and No. The new requirements only apply to connections that resist seismic loads, however this does include the majority of connections. The previous generation of products can be used when making connections such as doweled rebar at a patched slab-on-grade or installation of expansion anchors in sill plates of half-height partitions. Products complying with the new requirements must be used when installing shear wall holdowns, sill plate anchor bolts, anchoring mechanical units and most other applications. If you have questions about the requirements for your project please call or stop by to speak with a City plan check engineer.

WHAT PRODUCTS CAN I USE TO RESIST SEISMIC LOADS WHEN ANCHORING TO CONCRETE?

Any products listed with a nationally recognized testing agency as complying with the AC193 or AC308 standards. A list of tested products from major manufacturers has been provided below. If you do not see your favorite manufacturer, ask your hardware distributor if the product you would like to use has been properly tested. Provide us with a copy of the evaluation report and this list will be updated to include your product(s).

WHEN DO I HAVE TO START USING THE NEW PRODUCTS?

Today. This requirement applies to all permits issued after January 1st, 2008. (e.g. permits starting with CB08-, B09-, P08-, etc.) Permits pulled prior to this date can be constructed to the previous standards.

Anchor Type	Covert Operations	Hilti	Powers	Redhead	Simpson
Epoxy	CIA Gel 7000	HIT 500-SD	PE1000+	G5	SET-XP
Expansion	-	Kwik Bolt TZ HSL-3	Power-Stud+	True Bolt +	Strong-Bolt
Undercut	DUC	HDA	-	-	Torq-Cut
Screw (Bolt)	-	-	Wedge-Bolt+	-	Titen HD